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A²

- quenching in air from 490°C to approximately 100°C over the course of approximately 4 minutes,
- heating to 250°C over the course of approximately 15 minutes,
- holding the temperature of 250°C for a time of between 30 and 105 minutes,
- quenching in air to 40°C.

AMENDED 3. The process as claimed in claim 1, in which the temperature of 490°C is held for approximately 90 minutes, and the temperature of 250°C is held for approximately 30 minutes.

AMENDED 4. An aluminum alloy for use in a process of heat treatment, having the following composition:

Si: 2-11.5%

Fe: 0.15-0.4%

Mg: 0.3-1.0%

Cu: <0.02%

Mn: 0.4-0.8%

Ti: 0.1-0.2%

remainder aluminum and trace elements.

AMENDED 5. An aluminum alloy for use in a process of heat treatment, having the following composition:

Si: 1-3%

Fe: 0.15-0.4%

Mg: 3-5.5%

Cu: <0.02%

Mn: 0.4-0.8%

Ti: 0.1-0.2%

Zn: <0.08%

remainder aluminum and trace elements.

AMENDED 6. An aluminum alloy for use in a process of heat treatment, having the following composition:

Si: 7-11.5%

Fe: 0.15-0.4%

Mg: 0.3-0.4%

Cu: <0.02%

Mn: 0.4-0.6%

Ti: 0.15-0.2%

Sr: up to 300 ppm

remainder aluminum and trace elements.

AMENDED 7. The process as claimed in claim 1, further comprising, before introducing the structure casting into the casting process, subjecting the aluminum alloy to a melt treatment.

NEW 8. The process as claimed in Claim 7, wherein the melt treatment is degassing.

NEW 9. The process as claimed in Claim 7, wherein the melt treatment is filtration.

NEW 10. The process as claimed in Claim 1, further comprising after the first quenching in air, quenching in water.

NEW 11. The process as claimed in Claim 1, further comprising after the second quenching in air, quenching in water.

NEW 12. The process as claimed in Claim 1, further comprising after each quenching in air, quenching in water.

NEW 13. The process as claimed in claim 1, in which the temperature of 490°C is held for approximately 90 minutes, and the temperature of 250°C is held for approximately 45 minutes.

NEW 14. The process as claimed in claim 1, in which the temperature of 490°C is held for approximately 90 minutes, and the temperature of 250°C is held for approximately 60 minutes.

NEW 15. The process as claimed in claim 1, in which the temperature of 490°C is held for approximately 90 minutes, and the temperature of 250°C is held for approximately 105 minutes.
